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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,321	03/17/2006	Tadashi Onishi	038788.57524US	8034

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EXAMINER

NAKARANI, DHIRAJLAL S

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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07/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,321	Applicant(s) ONISHI ET AL.	
	Examiner D. S. Nakarani	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-8 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8 and 10-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 5, 6 and 15-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 17, the phrase "a laminate of five layers or less" and, lines 20-21, the phrase "a laminate of three layers" renders claims indefinite and confusing. It is not clear from the claim whether applicants are trying to claim infrared-reflective laminate of three layers or of five layers or less. In an event, applicants are trying to claim infrared-reflective laminate of three layers, deleting the phrase "a laminate of five layers or less - ----the single layer or" in lines 17-20 may overcome the rejection.

Claim 15, lines 16-20, the phrase "(a) a single layer ----- an infrared region" and lines 21-28, the phrase "(a) single layer ----- and ZnO" renders claim indefinite and confusing. It is not clear from the claim language what type of infrared-reflective film applicants are trying to claim? Deletion of phrase, lines 15-20, "and that the ----- infrared region" may overcome the rejection.

Claim 16, lines 7-11, the phrase "(a) a single layer ----- infrared region" and lines 19-26, the phrase "(a) a single layer ----- and ZnO" renders claim indefinite and confusing. It is not clear from the claim language what type of infrared-reflective film applicants are trying to claim? Deletion of phrase, lines 7-11, "that the infrared-reflective film ----- infrared region," may overcome the rejection.

Claim 17, lines 16-20, the phrase "(a) a single layer ----- infrared region" and lines 21-27, the phrase "a laminate of five layers, (i) ----- made of ZnO" renders claim indefinite and confusing. It is not clear from the claim language what type of infrared-reflective film applicants are trying to claim? Deletion of phrase, lines 15-20, "and that the infrared-reflective film ----- an infrared region," may over come the rejection.

Claim 18, lines 7-11, the phrase "(a) a single layer made ----- infrared region" and lines 20-26, the phrase "a laminate of five layers, (i) ----- made of ZnO" renders claim indefinite and confusing. It is not clear from the claim language what type of infrared-reflective film applicants are trying to claim? Deletion of phrase, lines 7-11, "that the infrared-reflective film ----- an infrared region," may over come the rejection.

3. Applicants are requested to NOTE that invention as claimed in claims 15-18, alternatively, reads on a single layer or multilayer infrared-reflective film disclosed in the prior art used in the following rejection. However deletion of suggested phrases from claims 15-18 may place those claims in form of allowable subject matter.

4. Claims 1, 2, 5-8 and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyama et al (U. S. Patent Application Publication US 2003/0139520 A1) in view of Muromachi et al (U. S. Patent 5,336,565), D'Errico (U. S. Patent 5,631,315) and Kondo (U.S. Patent 5,830,568).

Toyama et al disclose a glass laminate comprising a multilayer interlayer sandwiched between two glass plates. One layer of the multilayer interlayer comprises microparticles having a heat ray-shielding function. The microparticles such as tin doped indium oxide (ITO), antimony-doped tin oxide (ATO), and aluminum-doped zinc oxide (AZO) are disclosed (Paragraphs 0109-0110). Toyama et al also disclose the multilayer interlayer further comprising a heat ray-reflecting metalized polyester film for the laminated glass to increase strength and good sound insulation (Paragraphs 0111-0112). Toyama et al disclose glass plates such as a float glass, polished glass, heat ray absorbing glass, colored glass etc (Paragraph 0128). Toyama et al fail to disclose claimed sheet resistivity, other ultrafine particles and particle size and solar reflecting glass with claimed infrared reflective layer(s).

Muromachi et al disclose a solar reflection glass with claimed infrared reflective layers (Abstract, col. 2, lines 3-29 and Examples). Muromachi et al disclose required sheet resistivity for windshield having antennas (Col. 2, lines 45-49 and Table 1).

D'Errico disclose a glass laminate comprising glass/ZnO/metal (Ag)/ZnO/plasticized polyvinyl butyral layer(PVB)/glass or glass/PVB/ZnO/metal (Ag)/ZnO/PET/PVB/glass (Col. 6, lines 33-67). D'Errico's metal layer can be made of silver, aluminum, chromium, brass, zinc, stainless steel etc. (Col. 5, lines 55-64).

Kondo discloses laminated glass having a multilayer interlayer wherein one layer of the inter layer comprises ultrafine particles having particle size up to 0.2 microns (Col. 2, line 60 to col. 3, line 18 and col. 4, line 3 to col. Col. 5, line 2). Kondo discloses sheet

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resistivity of a glass with glass antenna which includes claimed sheet resistivity (Col. 5, lines 50-65).

Therefore it would have been obvious to a person of ordinary skill in the art at time of this invention made to utilize disclosure of Muromachi et al, D'Errico and/or Kondo in the invention of Toyama et al to make windows with sheet resistivity as taught by either Muromachi et al or Kondo, Kondo's ultrafine particles having particle size of up to 0.2 μm and use D'Errico's disclosure to use either infrared reflecting film coated glass or infrared reflecting film coated PET film.

No claims are allowed.

5. Applicant's arguments with respect to claims 1, 2, 5-14, 19 and 20 have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. S. Nakarani whose telephone number is (571) 272-1512. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/D. S. Nakarani/
D. S. Nakarani
Primary Examiner, Art Unit 1794**

DSN
July 16, 2008.